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EXAMINER

KRYCINSKI, STANTON L

ART UNIT	PAPER NUMBER
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3637

NOTIFICATION DATE	DELIVERY MODE
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ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/578,321	Applicant(s) YOSHIZAWA, TAKENORI	
	Examiner Stanton L. Krycinski	Art Unit 3637	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 December 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 and 25-48 is/are pending in the application.
- 4a) Of the above claim(s) 16, 19, 22, 25, 28, 31, 34, 37, 40, 43 and 46 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-15, 17, 18, 20, 21, 26, 27, 29, 30, 32, 33, 35, 36, 38, 39, 41, 42, 44, 45, 47 and 48 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on January 16, 2009 has been entered.

Priority

2. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Japan on November 6, 2003. It is noted, however, that applicant has not filed a certified copy of the foreign application as required by 35 U.S.C. 119(b). Applicant is required to submit an English translation of the foreign application to claim benefit of the foreign priority filing date.

Claim Objections

3. Claims **1 and 2** are objected to because of the following informalities:

On line 8 of claim 1, "trey" should read --tray-- for proper spelling;

On line 21 of claims 1 and 2, "a upper side" should read --an upper side-- for proper punctuation.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

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The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims **1, 17, 20, 26, 29, 32, 35, 38, 41, 44 and 47** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

6. Claim 1 recites, "the upper and lower contact sections being formed in a shape so as to move, when the first substrate carrying tray is stacked above said substrate carrying tray, the first substrate carrying tray in such a direction that a center of gravity of the first substrate carrying tray is positioned vertically above a center of gravity of said substrate carrying tray" on lines 14-17. A first substrate carrying tray only contacts the upper contact section; therefore the lower contact section can not move the first substrate carrying tray. All other claims are rejected based on their dependency on claim 1.

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims **1-15, 17, 18, 20, 21, 26, 27, 29, 30, 32, 33, 35, 36, 38, 39, 41, 42, 44, 45, 47 and 48** are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: the frame surrounding

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the outer edge of the loading bed, including the frame body, has no structural connection to the loading bed as currently claimed. For the purpose of this office action, the structural connection is interpreted as having the outer edge of the loading bed fixed between the upper fixing section and lower fixing section.

9. Claims **1-15, 17, 18, 20, 21, 26, 27, 29, 30, 32, 33, 35, 36, 38, 39, 41, 42, 44, 45, 47 and 48** rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

10. In the office action dated October 17, 2008, the issue of subcombination/combination of the substrate carrying tray, first and second substrate carrying trays, and the substrate as being indefinite was addressed. The examiner interpreted the claims as being a combination of the substrate carrying tray, first and second substrate carrying trays, and the substrate because the claims positively recite such a combination. However, in the response dated December 17, 2008 the applicant asserts there is no combination of the above elements (see page 14, 2nd paragraph of Remarks).

11. The current set of claims still positively recite the combination of the above elements. In particular:

Lines 1-4 of claims 1 and 2, "A stackable substrate carrying tray on which a substrate is place horizontally...a first substrate carrying tray...when the first substrate carrying tray is stacked above said substrate carrying tray";

Lines 7-9 of claims 1 and 2, “the upper contact section being formed in a shape so as to contact...the first substrate carrying tray when the first substrate carrying tray is stacked above said substrate carrying tray with the substrate placed thereon”;

Lines 10-13 of claims 1 and 2, “the lower contact section being formed in a shape so as to contact...a second substrate carrying tray when the second substrate carrying tray is stacked below said substrate carrying tray with the substrate placed thereon”;

Lines 2-3 of claims 17 and 18, “the first substrate carrying tray is not in contact with the substrate when the substrate is placed on said carrying tray”;

Lines 2-4 of claims 20 and 21, “there is a space between a lower end of the first substrate carrying tray and an upper end of the substrate when the substrate is placed on said substrate carrying tray”;

Lines 2-3 of claims 26 and 27, “a space inside the frame is an enclosed space when the plural substrate carrying trays are stacked on each other”;

Lines 2-3 of claims 29 and 30, “the loading bed includes a frame section whose inner perimeter is larger than an outer perimeter of the substrate”;

Lines 2-4 of claims 32 and 33, “the first substrate carrying tray is not in contact with the substrate when the substrate is placed on said substrate carrying tray”;

Lines 2-3 of claims 35 and 36, “there is a space between a lower end of the first substrate carrying tray and an upper end of the frame section”;

Lines 2-4 of claims 38 and 39, “an upper end of the frame section of the loading bed is...higher than an upper end of the substrate placed on the substrate carrying tray”;

Lines 2-4 of claims 41 and 42, “the upper and lower contact section, connected to each other, constitute a post which extends vertically when the plural substrate carrying trays are stacked on each other”;

Lines 2-4 of claim 47, “the upper contact section contacting the first substrate carrying tray which is stacked above said substrate carrying tray...and the lower contact section contacting the second substrate carrying tray which is stack below said substrate carrying tray”;

Lines 3-6 of claim 48, “the upper contact section contacting the first substrate carrying tray which is stacked above said substrate carrying tray...and the lower contact section contacting the second substrate carrying tray which is stack below said substrate carrying tray”;

12. The claims are rendered indefinite based on the applicant's assertion that there is no combination of the above elements. In the case of a subcombination, the first substrate carrying tray, the second substrate carrying tray, and the substrate, are not elements of the claimed device and it is improper to seek to define claimed structure based on a comparison to some unclaimed element. In this case, the boundaries of the claim cannot be properly ascertained because one would not know whether their device infringed the instant claim until someone else later added a first substrate carrying tray, a second substrate carrying tray, and a substrate. Accordingly, the stackable substrate carrying tray itself must be defined by its structural elements instead of relying upon a comparison with an unascertained element.

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13. In regards to claims 1 and 2, "to inside" on line 24, and "toward outside" on line 25 renders the claims indefinite. There is no structural relationship recited to determine the meaning of the terms. For the purpose of this office action, "to inside" is interpreted as meaning towards the interior of said substrate carrying tray, and "toward outside" is interpreted as meaning toward the opposite protruding direction of said lower side fixing section and said upper side fixing section.

14. In addition, the recitation, "the upper side fixing section and the lower side fixing section respectively includes ribs on planes, wherein the ribs protrude", is indefinite because it is not clear if the fixing sections include additional ribs, or if the recitation means the fixing sections are ribs. For the purpose of this office action the recitation is interpreted as meaning the fixing sections are ribs on planes, wherein the ribs protrude.

15. In regards to claims 9 and 10, it is unclear if "a protrusion" on line 2 of claim 9, and on line 2 of claim 10, is the same structural feature as "a flange" on line 22 of claim 1 and 2. For the purpose of this office action that are interpreted as being the same, therefore should be given the same recited language. In addition, "the tray" on line 3 of claim 9, and on line 2 of claim 10 lacks proper antecedent basis.

16. In regards to claims 7 and 14, the term "moderate" is a relative term which renders the claim indefinite. The term "moderate" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

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17. In regards to claims 26, 27, 41 and 42, "the plural substrate carrying trays" lacks proper antecedent basis.

18. All other claims are rejected based on their dependencies on claims 1 and 2.

Claim Rejections - 35 USC § 103

19. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

20. Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

21. Claims 1-5, 8-12, 15, 17, 18, 20, 21, 26, 27, 29, 30, 32, 33, 35, 36, 38, 39, 41, 42, 44, 45, 47 and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshizawa et al. (Yoshizawa; US Patent Application Publication No. 2004/0145697 A1) in view of Irwin (US Patent No. 1,941,941).

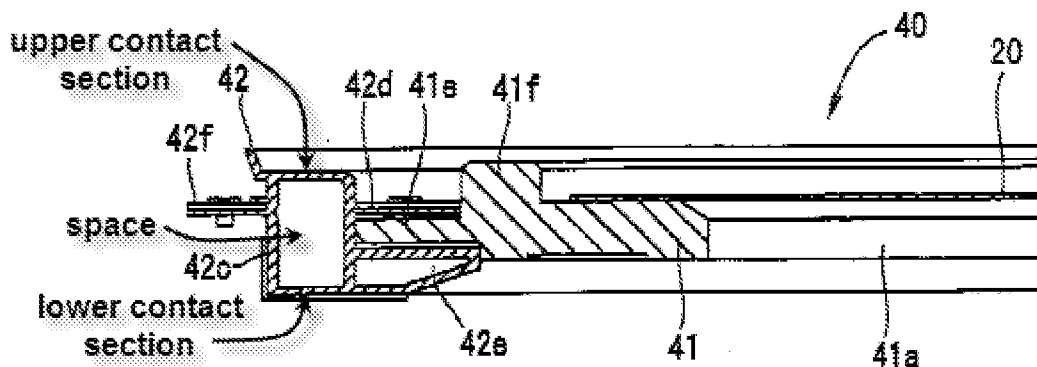


Figure 10A. Yoshizawa et al. (US Patent Application Publication No. 2004/0145697 A1).

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22. In regards to claim 1, Yoshizawa teaches a stackable substrate carrying tray (40, Figure 9A) on which a substrate (20, Figure 10A) is placed horizontally, capable of being separated from a first substrate carrying tray which is another substrate carrying tray when the first substrate carrying tray is stacked above said substrate carrying tray (40) as seen in Figure 10B, comprising:

- an upper contact section; and

- a lower contact section,

- the upper contact section being formed in a shape and being capable of contacting, by areal contact, the first substrate carrying tray when the first substrate carrying tray is stacked above said substrate carrying tray (40) with the substrate (20) placed thereon; and

- the lower contact section being formed in a shape and being capable contacting, by areal contact, a second substrate carrying tray which is still another substrate carrying tray when the second substrate carrying tray is stacked below said substrate carrying tray (40) with the substrate (20) placed thereon,

- a loading bed (41, Figure 10A) for loading the substrate (20); and

- a frame (42, Figure 10A) provided to surround an outer edge (41e, Figure 10A) of the loading bed (41), wherein the upper and lower contact sections are formed on the frame (42),

- wherein the frame (42) includes a frame body (42c, Figure 10A), a lower side fixing section (42e, Figure 10A), an upper side fixing section (42d, Figure 10A) and a flange (42f, Figure 10A), wherein the upper side fixing section (42d) and the lower side

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fixing section (42e) respectively includes ribs on planes, wherein the ribs protrude from an inner edge surface of the frame body (42c) to inside and the flange (42f) protrudes from an outer edge surface of the frame body (42c) toward outside.

23. Yoshizawa fails to teach the upper and lower contact sections being formed in a shape capable of moving a first substrate carrying tray when stacked above said substrate carrying tray (40), in such a direction that a center of gravity of the first substrate carrying tray is positioned vertically above a center of gravity of said substrate carrying tray (40).

24. Irwin teaches Irwin teaches a stackable substrate tray that is stacked upon adjacent substrate trays with upper and lower angled contact portions (26a, 27a, Figure 7) that interconnect, and the trays are aligned with each other as shown in Figures 1, and 7-9. Therefore, Irwin's stackable substrate tray is considered to have the upper and lower contact sections (26a, 27a) being formed in a shape so as to move, when a first substrate carrying tray is stacked above another substrate carrying tray, the first substrate carrying tray in such a direction that a center of gravity of the first substrate carrying tray is positioned vertically above a center of gravity of the other substrate carry tray.

25. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Yoshizawa's substrate tray to have the upper and lower contact sections being angled thereby having a shape capable of moving a first substrate carrying tray when stacked above said substrate carrying try, in such a direction that a center of gravity of the first substrate carrying tray is positioned vertically

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above a center of gravity of said substrate carrying tray for the purpose of increasing a maximum number of stackable trays and maintaining a sufficiently stable stack as suggested by Irwin (Column 1, Lines 10-20).

26. The substrate, first substrate carrying tray, and second substrate carrying tray are not part of the claimed device and their intended use is considered functional language, which is given very little patentable weight.

27. In regards to claim 2, Yoshizawa teaches a stackable substrate carrying tray (40, Figure 9A) on which a substrate (20, Figure 10A) is placed horizontally, capable of being separated from a first substrate carrying tray which is another substrate carrying tray when the substrate carrying tray is stacked above said substrate carrying tray (40) as seen in Figure 10B, comprising:

- an upper contact section; and

- a lower contact section,

- the upper contact section being formed in a shape and being capable of contacting, by areal contact, the first substrate carrying tray when the first substrate carrying tray is stacked above said substrate carrying tray (40) with the substrate (20) placed thereon and

- the lower contact section being formed in a shape and being capable of contacting, by areal contact, a second substrate carrying tray which is still another substrate carrying tray when the second substrate carrying tray is stacked below said substrate carrying tray (40) with the substrate (20) placed thereon,

- a loading bed (41, Figure 10A) for loading the substrate (20); and

a frame (42, Figure 10A) provided to surround an outer edge (41e, Figure 10A) of the loading bed (41), wherein the upper and lower contact sections are formed on the frame (42),

wherein the frame (42) includes a frame body (42c, Figure 10A), a lower side fixing section (42e, Figure 10A), an upper side fixing section (42d, Figure 10A) and a flange (42f, Figure 10A), wherein the upper side fixing section (42d) and the lower side fixing section (42e) respectively includes ribs on planes, wherein the ribs protrude from an inner edge surface of the frame body (42c) to inside and the flange (42f) protrudes from an outer edge surface of the frame body (42c) toward outside.

28. Yoshizawa fails to teach the upper contact section including an upper inclined section, for the areal contact, which is inclined inwardly or outwardly in said substrate carrying tray (40), and the lower contact section including a lower inclined section, for the areal contact, which has a same inclined direction as that of the upper inclined section.

29. Irwin teaches a stackable substrate carrying tray having an upper contact section (26a, Figure 7) and a lower contact section (27a, Figure 7), wherein the upper contact section (26a) includes an upper inclined section which is inclined inwardly, and the lower contact section (27a) includes a lower inclined section which has a same inclined direction as that of the upper inclined section.

30. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Yoshizawa's substrate carrying tray to have the upper contact section including an upper inclined section, for the areal contact, which is

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inclined inwardly or outwardly in said substrate carrying tray, and the lower contact section including a lower inclined section, for the areal contact, which has a same inclined direction as that of the upper inclined section for the purpose of increasing a maximum number of stackable trays and maintaining a sufficiently stable stack as suggested by Irwin (Column 1, Lines 10-20).

31. The substrate, first substrate carrying tray, and second substrate carrying tray are not part of the claimed device and their intended use is considered functional language, which is given very little patentable weight.

32. In regards to claim 3, Yoshizawa, modified by Irwin, teaches the upper and lower contact sections are disposed on a peripheral edge (42a and 42b, Figure 9A) of the substrate carrying tray (40, Figure 9A; Page 9, Paragraph 0136).

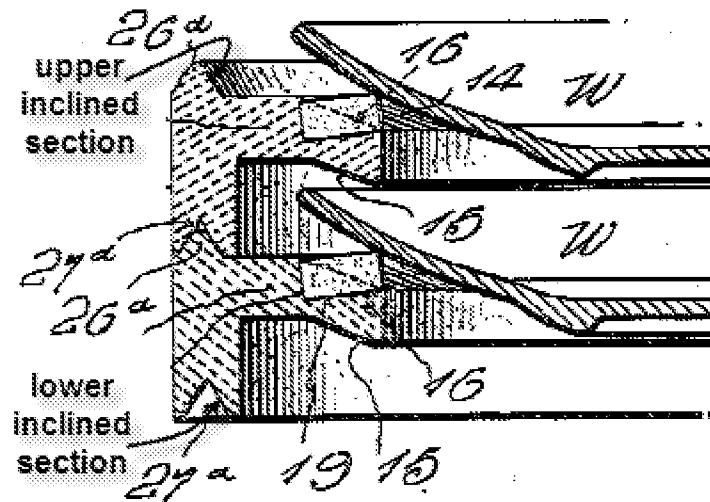


Figure 7. Irwin (US Patent No. 1,941,941).

33. In regards to claims 4, 11, 5, 12, 8 and 15, Yoshizawa fails to teach an upper inclined section is provided entirely on an upper surface of the upper contact section,

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and a lower inclined section is provided entirely on a lower surface of the lower contact section as recited in claims 4 and 11; and

an upper inclined section is provided on a portion including an outer edge or inner edge of an upper surface of the upper contact section, and the lower inclined section is provided on a portion of the lower contact section, the portion including an edge corresponding to an edge on which the upper inclined section is disposed as recited in claims 5 and 12; and

upper and lower inclined sections have an identical shape at respective contact portions as recited in claims 8 and 15.

34. Irwin teaches an upper inclined section is provided entirely on an upper surface of an upper contact section (26a, Figure 7), and a lower inclined section provided entirely on a lower surface of a lower contact section (27a, Figure 7) as recited in claims 4 and 11; and

an upper inclined section is provided on a portion including an outer edge or inner edge of an upper surface of the upper contact section (26a, Figure 7), and a lower inclined section is provided on a portion of the lower contact section (27a, Figure 7), the portion including an edge corresponding to an edge on which the upper inclined section is disposed as recited in claims 5 and 12; and

upper and lower inclined sections have an identical shape at respective contact portions as recited in claims 8 and 15.

35. It would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify Yoshizawa's substrate carrying tray, previously

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modified by Irwin, to have an upper inclined section provided entirely on an upper surface of the upper contact section, and a lower inclined section provided entirely on a lower surface of the lower contact section (claims 4 and 11); and

to have an upper inclined section provided on a portion including an outer edge or inner edge of an upper surface of the upper contact section, and a lower inclined section provided on a portion of the lower contact section, the portion including an edge corresponding to an edge on which the upper inclined section is disposed (claim 5 and 12); and

to have upper and lower inclined sections having an identical shape at respective contact portions (claims 8 and 15);

all for the purpose of increasing a maximum number of stackable trays while maintaining a sufficiently stable stack as suggested by Irwin (Column 1, Lines 10-20).

36. In regards to claim 9, Yoshizawa, modified by Irwin, teaches the upper and lower contact sections are different from a protrusion (42f, Figure 10A) that engages a chuck for catching the tray (40, Figure 9A; Page 9, Paragraph 0138).

37. In regards to claim 10, Yoshizawa, modified by Irwin, teaches the tray (40, Figure 10A) includes a protrusion (42f, Figure 10A) that engages a chuck for catching the tray (40), the protrusion (42f) outwardly protruding from an outer edge surface of the peripheral edge of the tray (40), the outer edge surface is formed, in a plane manner, in such a direction that becomes a vertical direction when the tray (40) is placed horizontally, and the upper and lower contact sections are provided inwardly from the outer edge surface.

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38. In regards to claims 17 and 18, Yoshizawa, modified by Irwin, teaches the substrate carrying tray (40, Figure 10A) has such a shape that a first substrate carrying tray is not in contact with the substrate (20, Figure 10A) when the substrate is placed on said carrying tray (40) as seen in Figure 10B. The first substrate carrying tray and the substrate are not part of the claimed device and their use is considered functional language, which is given very little patentable weight.

39. In regards to claims 20 and 21, Yoshizawa, modified by Irwin, teaches the substrate carrying tray (40, Figure 10A) has such a shape that there is a space between a lower end of a first substrate carrying tray and an upper end of the substrate (20, Figure 10A) when the substrate is placed on said substrate carrying tray (40) as seen in Figure 10B. The first substrate carrying tray and the substrate are not part of the claimed device and their use is considered functional language, which is given very little patentable weight.

40. In regards to claims 26 and 27, Yoshizawa, modified by Irwin, teaches the upper and lower contact sections each has such a shape that a space inside the frame (42, Figure 10A) is an enclosed space when plural substrate carrying trays (40, Figure 10A) are stacked on each other as illustrated in Figure 10A above.

41. In regards to claims 29 and 30, Yoshizawa, modified by Irwin, teaches the loading bed (41, Figure 10A) includes a frame section (41f, Figure 10A) whose inner perimeter is larger than an outer perimeter of the substrate (20, Figure 10A). The substrate is not a part of the claimed device and its use is considered functional language, which is given very little patentable weight.

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42. In regards to claims 32 and 33, Yoshizawa, modified by Irwin, teaches the frame section (41f, Figure 10A) of the loading bed (41, Figure 10A) has such a shape that a first substrate carrying tray is not in contact with the substrate (20, Figure 10A) when the substrate is placed on said substrate carrying tray (40, Figure 10A) as seen in Figure 10B. The first substrate carrying tray and the substrate are not part of the claimed device and their use is considered functional language, which is given very little patentable weight.

43. In regards to claims 35 and 36, Yoshizawa, modified by Irwin, teaches the frame section (41f, Figure 10A) of the loading bed (41, Figure 10A) has such a shape that there is a space between a lower end of a first substrate carrying tray and an upper end of the frame section (41f) as seen in Figure 10B). The first substrate carrying tray is not part of the claimed device and its use is considered functional language, which is given very little patentable weight.

44. In regards to claims 38 and 39, Yoshizawa, modified by Irwin, teaches an upper end of the frame section (41f, Figure 10A) of the loading bed (41, Figure 10A) is lower than an upper end of the upper contact section (Page 9, Paragraph 0136, Lines 12-14) and higher than an upper end of the substrate (20, Figure 10A) placed on the substrate carrying tray (40, Figure 10A; Page 9, Paragraph 0135, Lines 20-25). The substrate is not part of the claimed device and its use is considered functional language, which is given very little patentable weight.

45. In regards to claims 41 and 42, Yoshizawa, modified by Irwin, teaches the upper and lower contact sections each has such a shape that the upper and lower contact

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sections, connected to each other, constitute a post (cross section of 42c, Figure 10B) which extends vertically when plural substrate carrying trays (40, Figure 10B) are stacked on each other. Plural substrate carrying trays are not part of the claimed device and their use is considered functional language, which is given very little patentable weight.

46. In regards to claims 44 and 45, Yoshizawa, modified by Irwin, teaches two or more substrates (20, Figure 10B) can be vertically placed and carried by a structure that three or more stackable substrate carrying trays (40, Figure 10B) are stacked (one tray above and one tray below said substrate carrying tray). The substrate is not part of the claimed device and its use is considered functional language, which is given very little patentable weight.

47. In regards to claim 47, Yoshizawa fails to teach the upper contact section contacting a first substrate carrying tray which is stacked above said substrate carrying tray (40, Figure 10A) by only an angled portion of the upper contact section and the lower contact section contacting a second substrate carrying tray which is stacked below said substrate carrying tray (40) by only an angled portion of the lower contact section, and wherein the angled portion of the upper contact section and the angled portion of the lower contact section have equal width and the same inclination.

48. Irwin teaches an upper contact section (26a, Figure 7) capable of contacting a first substrate carrying tray which is stacked above another substrate carrying tray by only an angled portion of the upper contact section (26a) and a lower contact section (27a, Figure 7) capable of contacting a second substrate carrying tray which is stacked

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below said substrate carrying tray by only an angled portion of the lower contact section (27a), and wherein the angled portion of the upper contact section (26a) and the angled portion of the lower contact section (27a) have equal width and the same inclination.

49. It would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify Yoshizawa's substrate carrying tray, previously modified by Irwin, to have the upper contact section capable of contacting a first substrate carrying tray which is stacked above said substrate carrying tray by only an angled portion of the upper contact section and the lower contact section capable of contacting a second substrate carrying tray which is stacked below said substrate carrying tray by only an angled portion of the lower contact section, and wherein the angled portion of the upper contact section and the angled portion of the lower contact section have equal width and the same inclination for the purpose of increasing a maximum number of stackable trays while maintaining a sufficiently stable stack as suggested by Irwin (Column 1, Lines 10-20).

50. In regards to claim 48, Yoshizawa, modified by Irwin, teaches the upper contact section capable of contacting a first substrate carrying tray which is stacked above said substrate carrying tray (40, Figure 10A) by only the surface of the upper contact section and the lower contact section capable of contacting a second substrate carrying tray which is stacked below said substrate carrying tray (40) by only the surface of the lower contact section, and wherein the surface of the upper contact section and the surface of the lower contact section have the same surface area and the same shape as seen in Figure 10A.

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51. Yoshizawa fails to teach the upper and lower contact sections having surfaces of a same inclination. Irwin teach the upper and lower contact sections (26a and 27a, Figure 7) having surfaces of a same inclination.

52. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Yoshizawa's substrate carrying tray, previously modified by Irwin, to have the upper and lower contacts sections having surface of a same inclination for the purpose of increasing a maximum number of stackable trays while maintaining a sufficiently stable stack as suggested by Irwin (Column 1, Lines 10-20).

53. Claims **6 and 13** are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshizawa et al. (Yoshizawa; US Patent Application Publication No. 2004/0145697 A1) and Irwin (US Patent No. 1,941,941) as applied to claims 1 and 2 above, and in further view of Bradley (US Patent No. 738,980).

54. Yoshizawa, modified by Irwin, fails to teach at least one of the upper and lower inclined sections are inclined in a plane manner (extending in a plane).

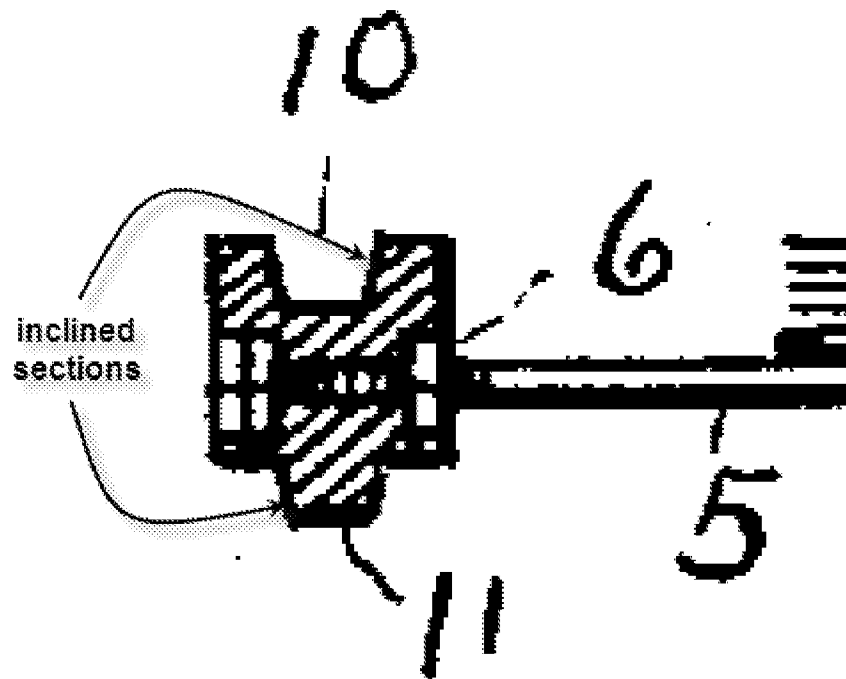


Figure 2 Partial. Bradley (US Patent No. 738,980).

55. Bradley teaches a stackable tray having upper and lower contact sections (10 and 11, Figure 2), wherein the contact sections have inclined sections inclined in a plane manner as seen in Figure 1 and illustrated in Figure 2 above.

56. It would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify Yoshizawa's substrate carrying tray, previously modified by Irwin, to have the inclined surfaces on the upper and lower contact sections inclined in a plane manner as taught by Bradley because Yoshizawa's contacting surfaces are in a plane manner to accommodate square substrates, and therefore having the inclined surfaces in a plane manner would have been desirable based on different shapes as suggested by Irwin (Column 1, Lines 3-7).

57. Claims **7 and 14** are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshizawa et al. (Yoshizawa; US Patent Application Publication No. 2004/0145697 A1)

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and Irwin (US Patent No. 1,941,941) as applied to claims 1 and 2 above, and in further view of Wilson (US Patent No. 3,549,018).

58. Yoshizawa, modified by Irwin, fails to teach at least one of the upper and lower inclined sections are inclined in such a curved manner that a gradient is downwardly moderate.

59. Wilson teaches a stackable tray having a lower inclined section (22, Figure 2) inclined in such a curved manner that a gradient is downwardly (Column 2, Lines 4-9).

60. It would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify Yoshizawa's substrate carrying tray, previously modified by Irwin, to have at least one of the upper and lower inclined sections inclined in such a manner that a gradient is downwardly for the purpose of facilitating nesting of stacked trays as suggested by Wilson (Column 2, Lines 9-10).

Response to Arguments

61. Applicant's arguments with respect to claims 1-48 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

62. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Murphy (US Patent No. 5,103,976) and Koshikawa (JP 2000281170 A) teach stackable trays.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stanton L. Krycinski whose telephone number is 571-

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270-5381. The examiner can normally be reached on Monday-Thursday, 7:30 AM to 6:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lanna Mai can be reached on 571-272-6867. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/S. L. K./
Examiner, Art Unit 3637

/Lanna Mai/
Supervisory Patent Examiner, Art Unit 3637